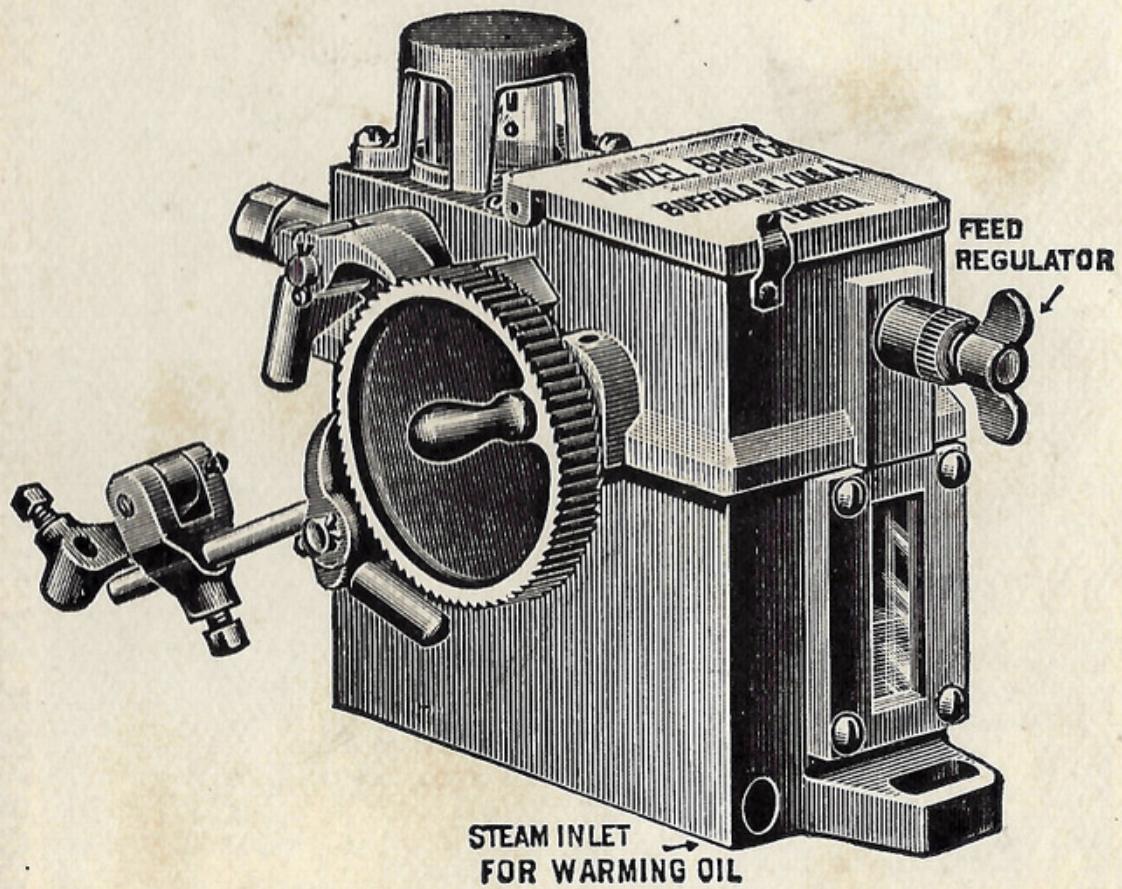


CATALOGUE NUMBER NINE

THE
MANZEL
FORCE AND SIGHT FEED
TRACTION ENGINE
OIL PUMP

MODEL "D"



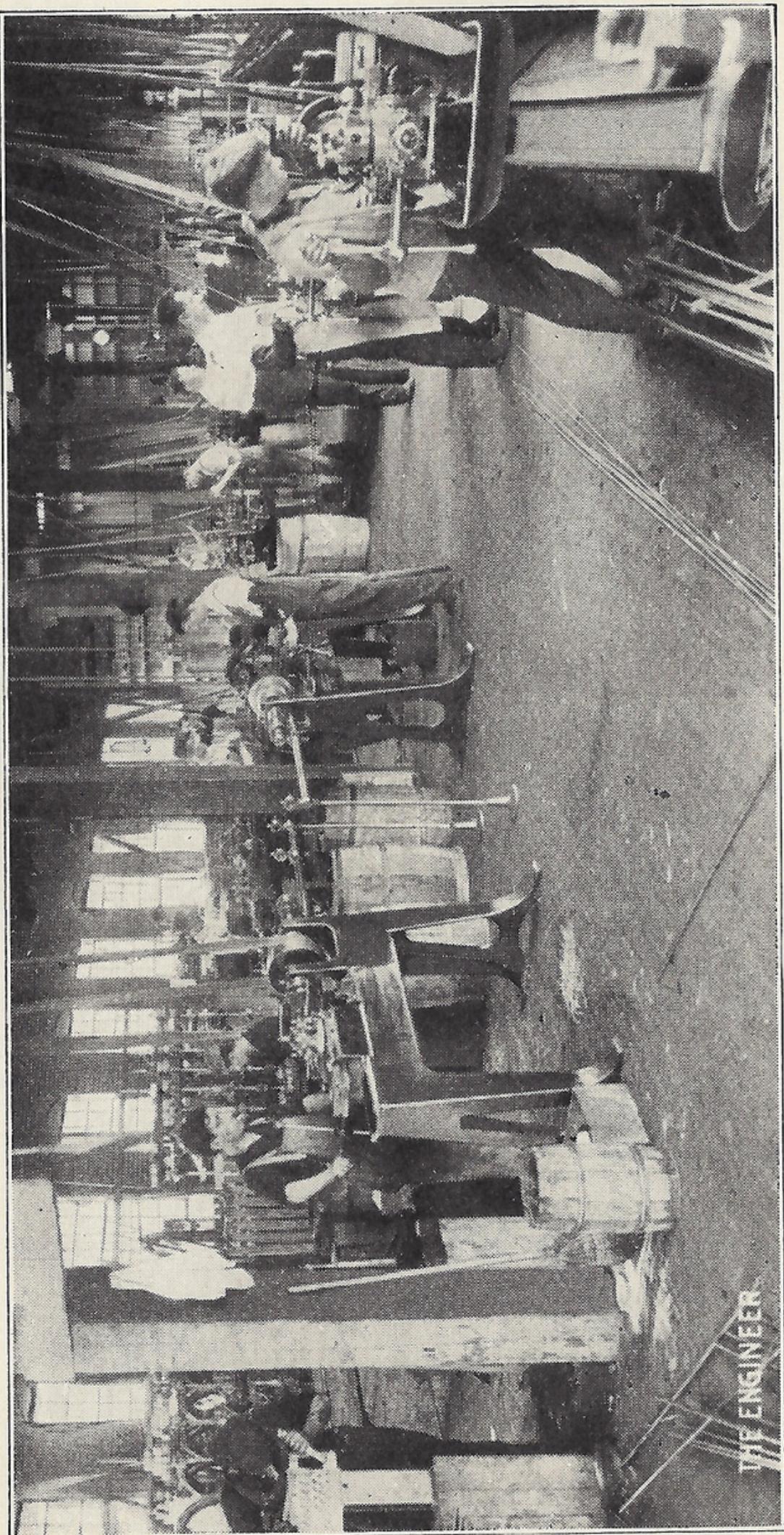
Manufacturers and Patentees

MANZEL BROTHERS CO.

"OIL PUMP SPECIALISTS"

315-319 Babcock St.,

Buffalo, N. Y.

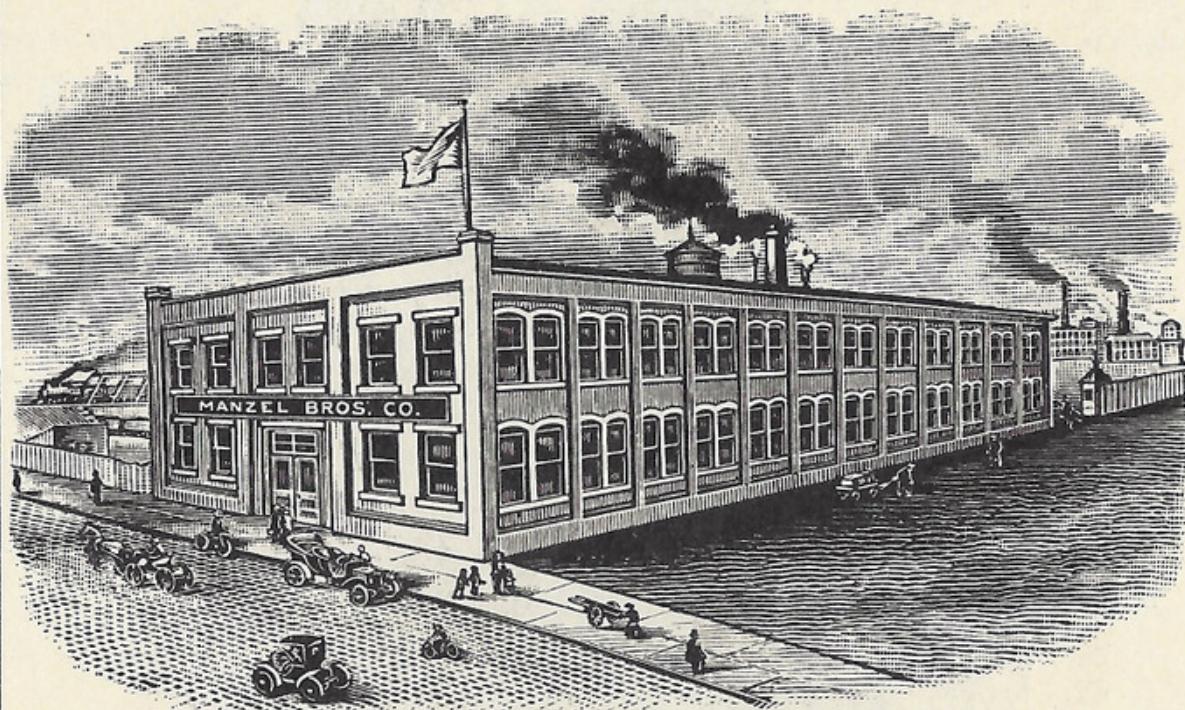


CORNER IN MACHINE SHOP—MANZEL BROS. CO.

CATALOGUE NUMBER NINE

THE
MANZEL
FORCE AND SIGHT FEED
TRACTION ENGINE
OIL PUMP

MODEL "D"



The Home of Manzel Oil Pumps

The Largest plant in the country devoted entirely to the
manufacture of Force Feed Oil Pumps.

MANZEL BROTHERS CO.

Manufacturers and Patentees

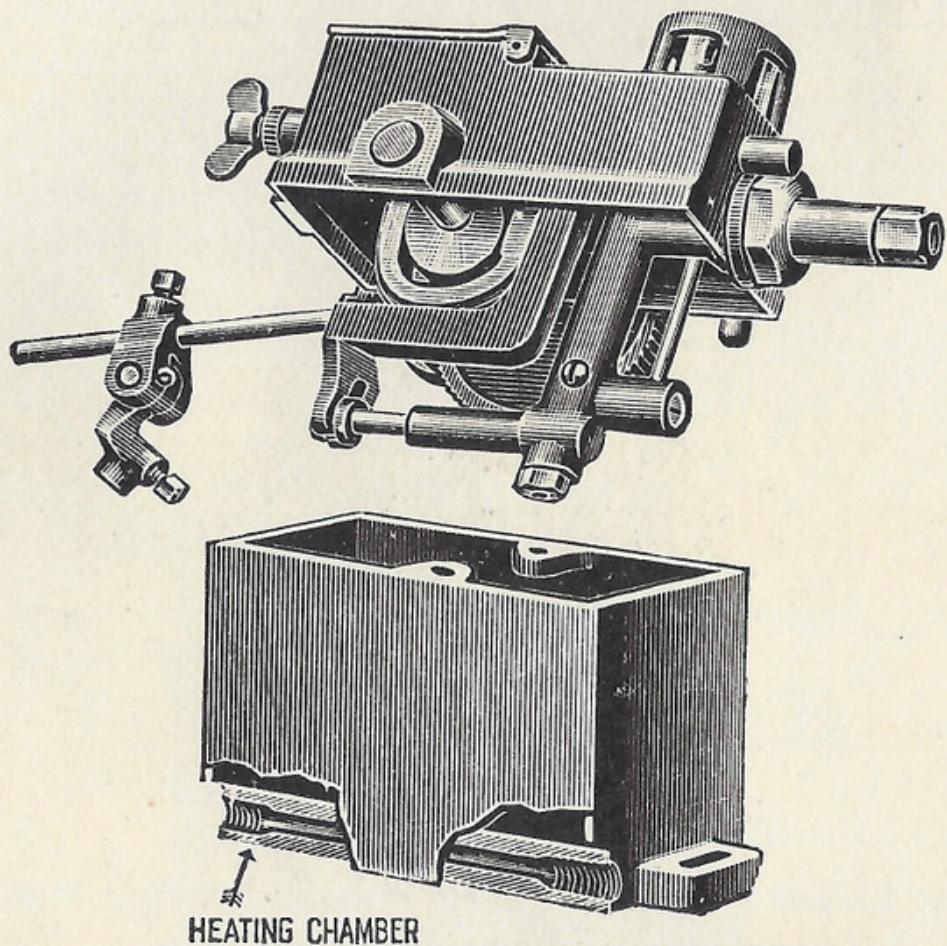
315-317-319 BABCOCK ST.

BUFFALO, N. Y.

The Manzel Force and Sight Feed Traction Engine Oil Pump.

MODEL "D"

Design The design of our Model "D" Traction Engine Oil Pump is something entirely new in the construction of Force Feed Oil Pumps for Traction Engines, although the principle upon which it works is exactly the same as used in our former Model, which has been on the market for years, and has given such excellent satisfaction. We have retained all the special features and advantages of our well known pump, but have added many improvements, as noted in the following pages.



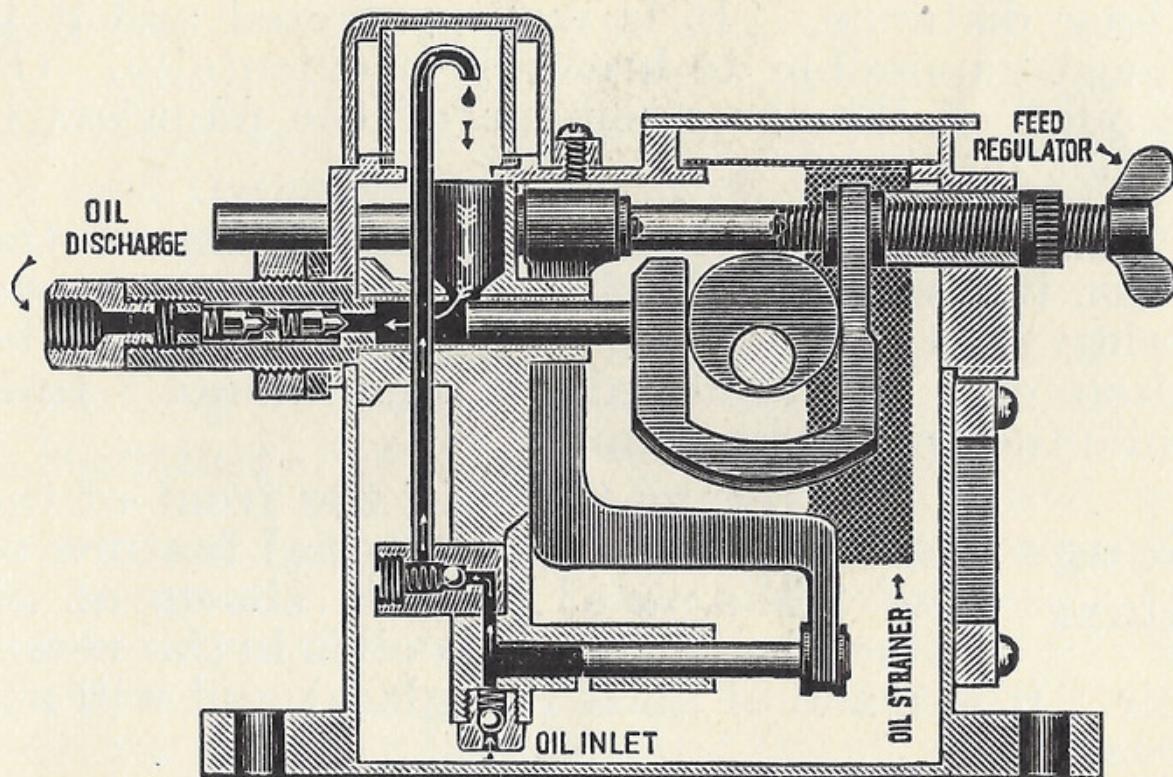
Working Parts in Oil

The working parts are incased, and work in the Oil, but are as accessible as though on the outside of the reservoir. The entire pumping mechanism is attached to the cover and can be removed by simply taking out the two bolts which hold the cover to base or reservoir, should it be necessary to repair or inspect any part of the pump.

Positive in Action

This pump is absolutely positive in action, being designed with double plungers, the lower plunger drawing the oil out of the reservoir and forcing it through the sight glass, and the upper plunger forcing it into the steam cylinder; the supply of oil being adjusted with the feed regulator. (See sectional cut below.)

Every attention has been given to making it simple, strong and durable, yet neat in appearance. The main shaft is made of steel and runs entirely through the casing with a wide bearing at each end. The eccentric is also made of steel and has a broad bearing surface. The plungers are made of Drill Rod (the very best kind of steel) and are ground to fit. In fact every part is made of the very best material for its particular purpose and there is nothing whatever to wear, break or get out of order.



SECTIONAL VIEW.

No Stuffing Boxes

No stuffing boxes or packing are used in its construction, thus eliminating every possibility of leakage, or plungers wearing and the necessity of repacking. It is so constructed that it can not be put together wrong if taken apart for any reason.

Sight Feed One of the features to which we particularly desire to call your attention is the large sight feed. We were the originators of the Sight Feed Oil Pump and still manufacture the only genuine sight feed. This is the large circular glass on the top of the pump. Every drop of oil must pass through this glass before entering the cylinder, and the engineer can see at all times just how much oil is being supplied to the cylinder. It can be plainly seen from the rear, front, or either side of the engine.

No glycerine, water or other liquid is used in it, nor is it under pressure of any kind. There is, therefore, no possibility of it freezing, bursting, or becoming cloudy, and it never has to be drained or refilled.

It is made of the very best, clear, ground glass, and is large enough to be easily seen from a long distance. It is well protected and it is almost impossible to break it accidentally. On account of the arrangement of the plungers it cannot fill up.

If at any time it is desired to remove the glass, it can be done without in any way interfering with the working of the pump. It can be taken out and replaced in one minute's time while the engine is running.

Gauge Glass The Gauge Glass in the front of the reservoir is another special feature of the "Manzel." This shows at all times just how much oil is in the reservoir. It is made of mica (isinglass) and will not break.

Hand Attachment All Manzel Pumps have a hand attachment on the ratchet wheel and can be used as hand pumps if desired. This permits operation of the pump before starting the engine, or if more oil is needed momentarily while the engine is running and is very convenient for a foaming boiler. Its use does not in any way disturb the feed adjustment.

Feed Regulator

The Manzel Pump has not only a very wide range of feed, but is very easily and accurately adjusted while the engine is running. It only requires a few turns of the regulating nut to change the feed from a minute drop to a perfect flood of oil.

Turning the regulating nut changes the position of the lower plunger in its relation to the overflow, that is, the distance the plunger passes the overflow hole. With each backward movement of the plunger the oil is drawn from the reservoir into the cylinder, and at the forward stroke all the oil between the overflow and the end of the piston at the termination of the stroke, is forced forward through the sight glass, the oil back of the overflow returning to the reservoir. The feed can be shut off entirely, regulated to a drop every two or three strokes, or to one, two, five, ten, fifteen or any number of drops with each stroke, as desired.

A lock nut holds the feed in place after adjustment, and the pump can be depended upon to feed the same quantity of oil with every stroke of the plunger, regardless of the temperature, speed of the engine, or kind of oil used.

**Heating
Chamber** Another original feature of the Manzel is the heating chamber for warming the oil. Many grades of oil are not "Cold Test" and will freeze solid in cold weather. It is apparent that no pump will, or can, feed oil in that condition, for solid matter cannot be pumped successfully. To overcome this difficulty, we have provided a heating chamber for warming the oil when necessary. This consists of a small core running through the bottom of the reservoir to which connection can be made with the exhaust steam. In extremely cold weather it is only necessary to turn on the steam, allowing it to blow through the core, and the oil is kept warm, (not hot.)

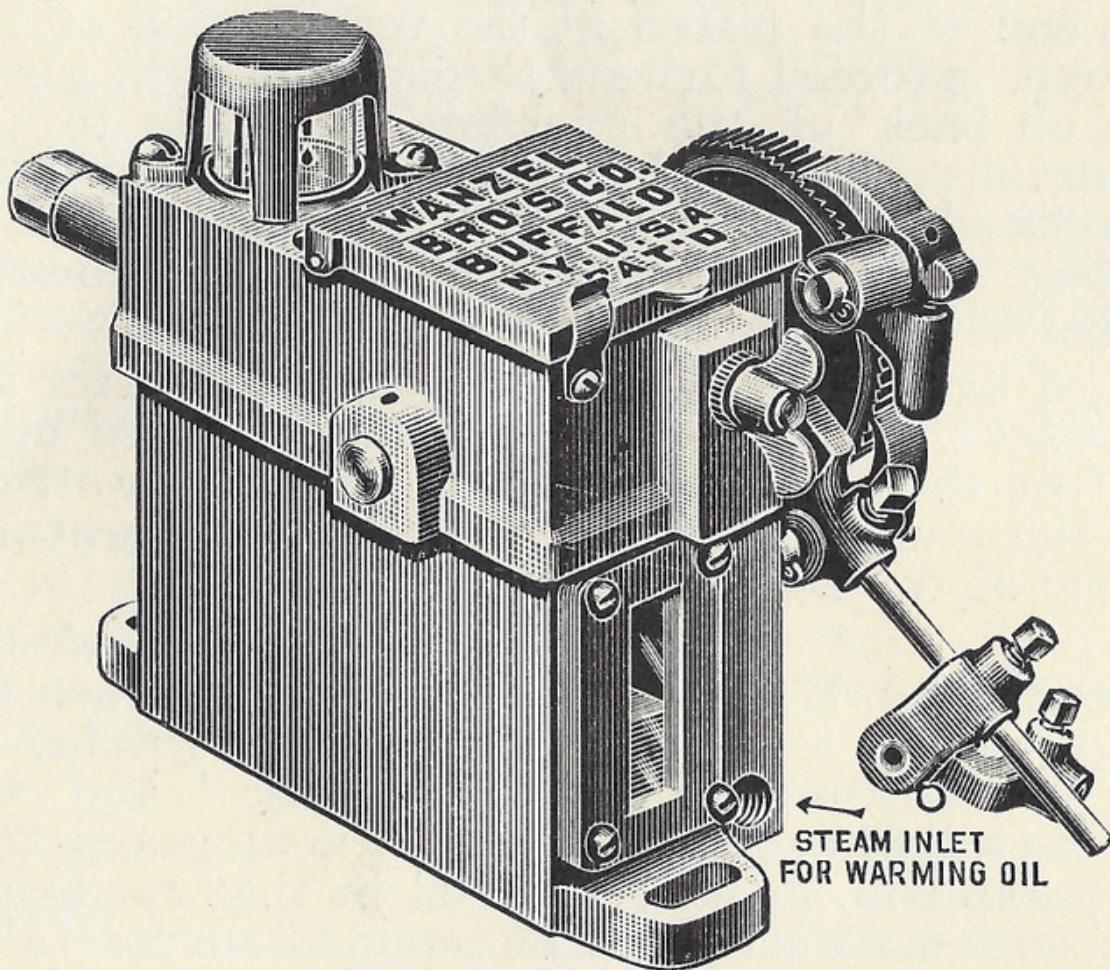
**The
Pawls** The Pawls are made of drop forged tool steel, and are hardened. They will last for years.

EVERY MANZEL PUMP IS GUARANTEED TO WORK
IN COLD WEATHER, FEEDING ANY KIND OF OIL

**SINGLE FEED
MANZEL
FORCE AND SIGHT FEED TRACTION ENGINE
OIL PUMP**

MODEL "D"

(Patented)



LEFT HAND PUMP

Price and Capacity same as Right Hand Pump

NOTICE

When no preference is given, we always send right hand pumps, finished in black.

Unless otherwise ordered, pumps will be shipped by Express.

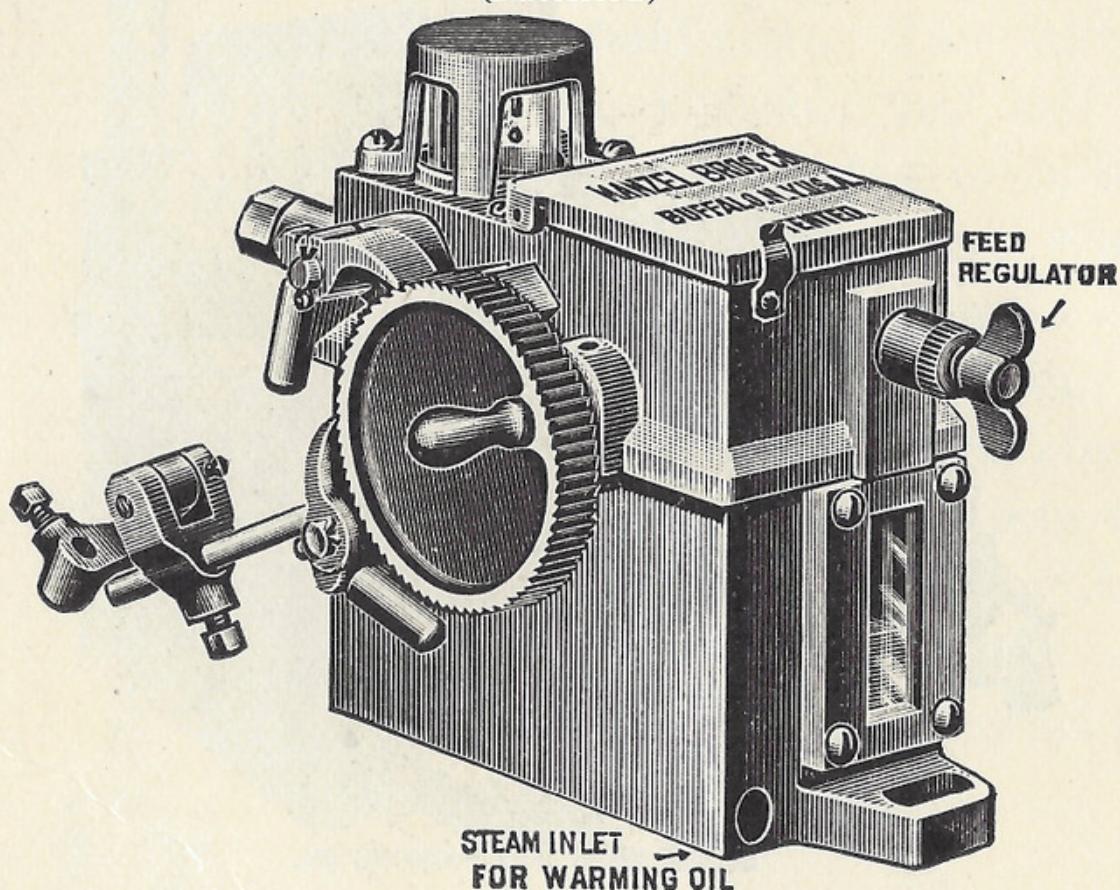
Remittance may be made by Check, Post Office or Express Money Order.

INSIST UPON HAVING YOUR NEW ENGINE
EQUIPPED WITH A MANZEL OIL PUMP

**SINGLE FEED
MANZEL
FORCE AND SIGHT FEED TRACTION ENGINE
OIL PUMP**

MODEL "D"

(Patented)



RIGHT HAND PUMP

CAPACITY, ONE QUART

PRICE:

Finished in black,	\$12.00
Nickel-plated,	\$14.00

Prices are F. O. B. Buffalo, N. Y., and include all fittings with the exception of the pipe and bracket.

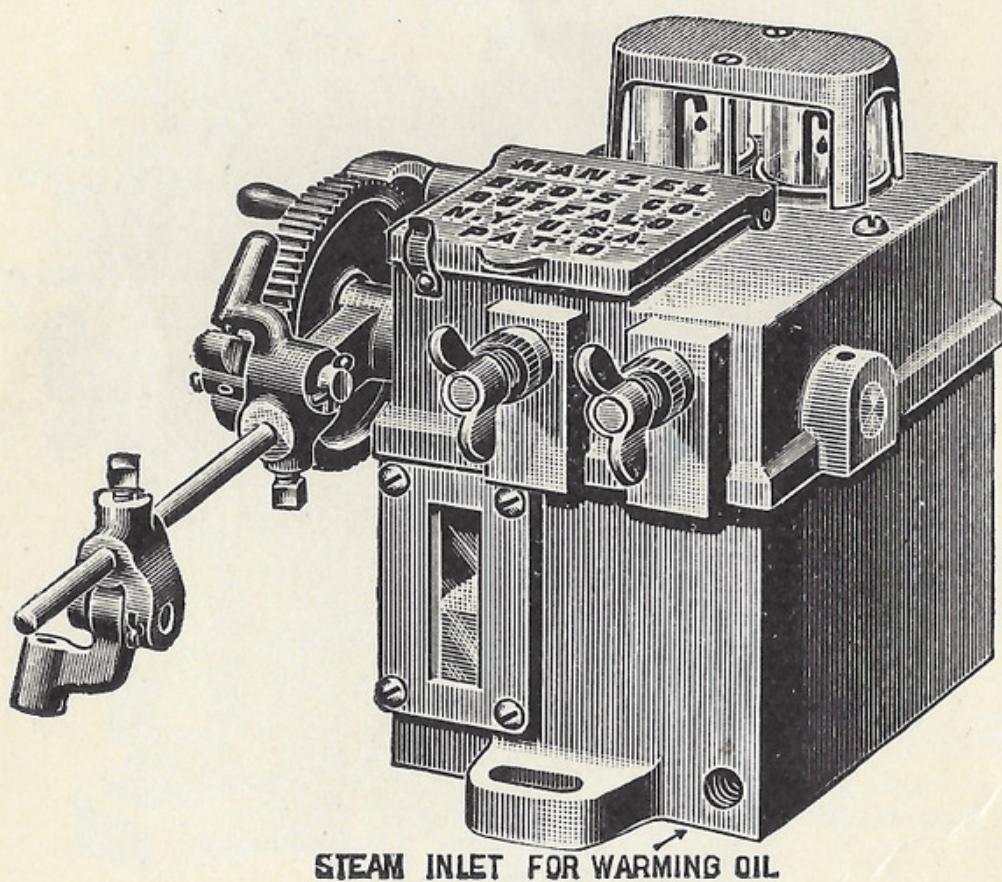
EACH FEED IS REGULATED INDEPENDENTLY

DOUBLE FEED
MANZEL
FORCE AND SIGHT FEED TRACTION ENGINE
O I L P U M P

MODEL "D"

For Double Cylinder Engines and for Separators

(Patented)



RIGHT HAND PUMP

(Left hand Pump has ratchet wheel on opposite side.)

CAPACITY, . . . THREE PINTS

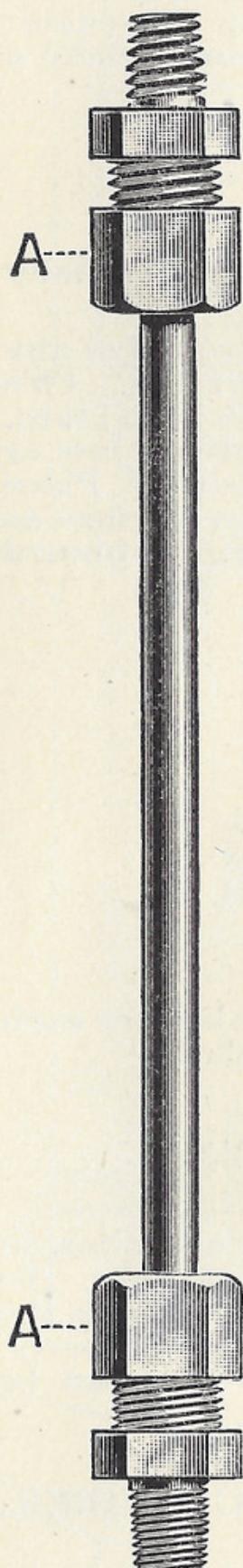
PRICE :

Finished in black, . . . \$15.00

Nickel-plated, . . . \$17.00

Prices are F. O. B. Buffalo, N. Y., and include all fittings with the exception of the pipe and bracket.

ANNEALED TUBING



For the convenience of threshermen living at a distance from supply houses or where no pipe cutting tools are accessible, we can furnish annealed brass tubing, with metallic unions on each end, if desired. One union threaded to screw into the pump and the other to screw into the check valve at the feed pipe. This tubing is very soft and pliable and can be bent at very short angles, or coiled, without danger of breaking. When used no L's, T's, or short lengths are required, and no thread cutting is necessary. To make the joint steam tight, simply shove the pipe into the union and tighten up on nut "A." This forms a joint which can not possibly leak or come apart until the nut is again loosened.

The unions are not soldered on the pipe and can be easily removed if desired.

PRICE :

Fittings at check and union at pump, . . .	\$0.50
Annealed tubing, per foot,16

HOW TO ATTACH PUMPS TO ENGINE.

The pump should be placed on the frame, cylinder or steam chest of the engine or wherever it is most convenient to get motion. If no convenient place can be found, make a small bracket of $\frac{1}{4}$ in. iron as shown below.

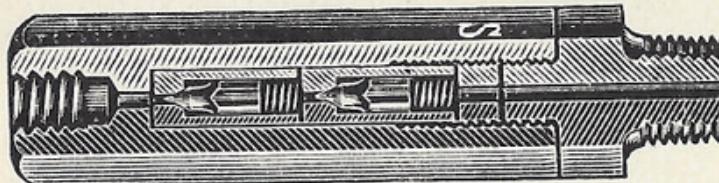


Bolt this to frame of engine or slip back of nuts on cylinder and bolt pump to it.

Attach connecting rod of the pump to valve rod or any movable part of engine which travels back and forth. (We furnish a clamp that will fit any valve rod from $\frac{3}{4}$ in. to $1\frac{1}{2}$ in. in diameter.) Run pipe from pump outlet to steam line or steam chest, above or below the throttle, as desired. Place vacuum check valve (shown below) in the oil line as close as possible to steam connection, with the end marked "S" toward the steam.

Fittings are all $\frac{1}{4}$ in.

VACUUM CHECK VALVE.



One of these vacuum check valves is furnished for each feed, and is to be put in the oil pipe as directed above.

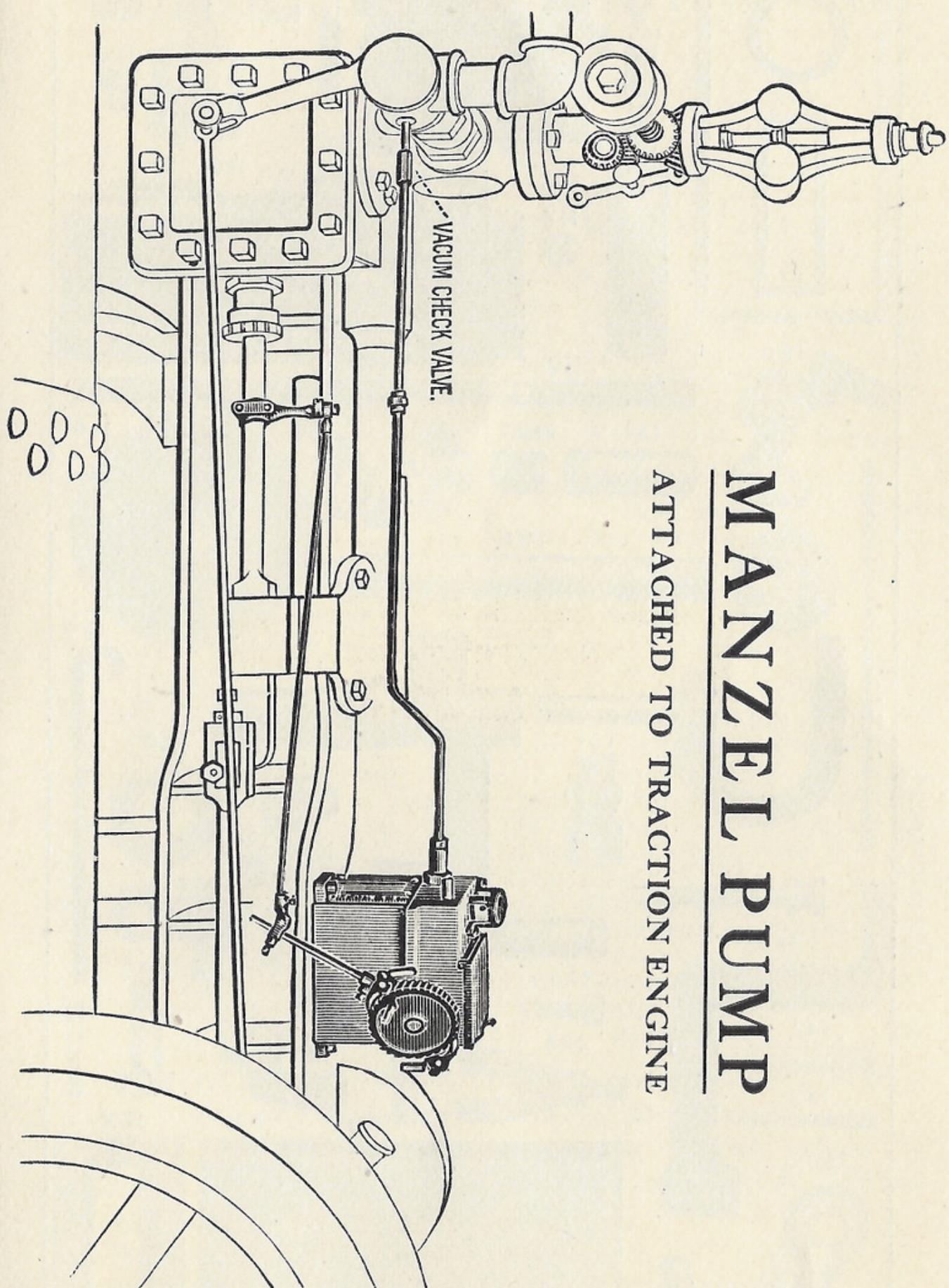
HOW TO REGULATE THE FEED.

The feed is regulated, while the pump is in operation on the engine, by means of the regulating nut shown in cut. To increase the feed, turn to the left. To decrease, turn to the right (Left hand thread.) After feed is adjusted properly, tighten lock nut against eccentric strap. The feed can be adjusted from nothing to any quantity required.

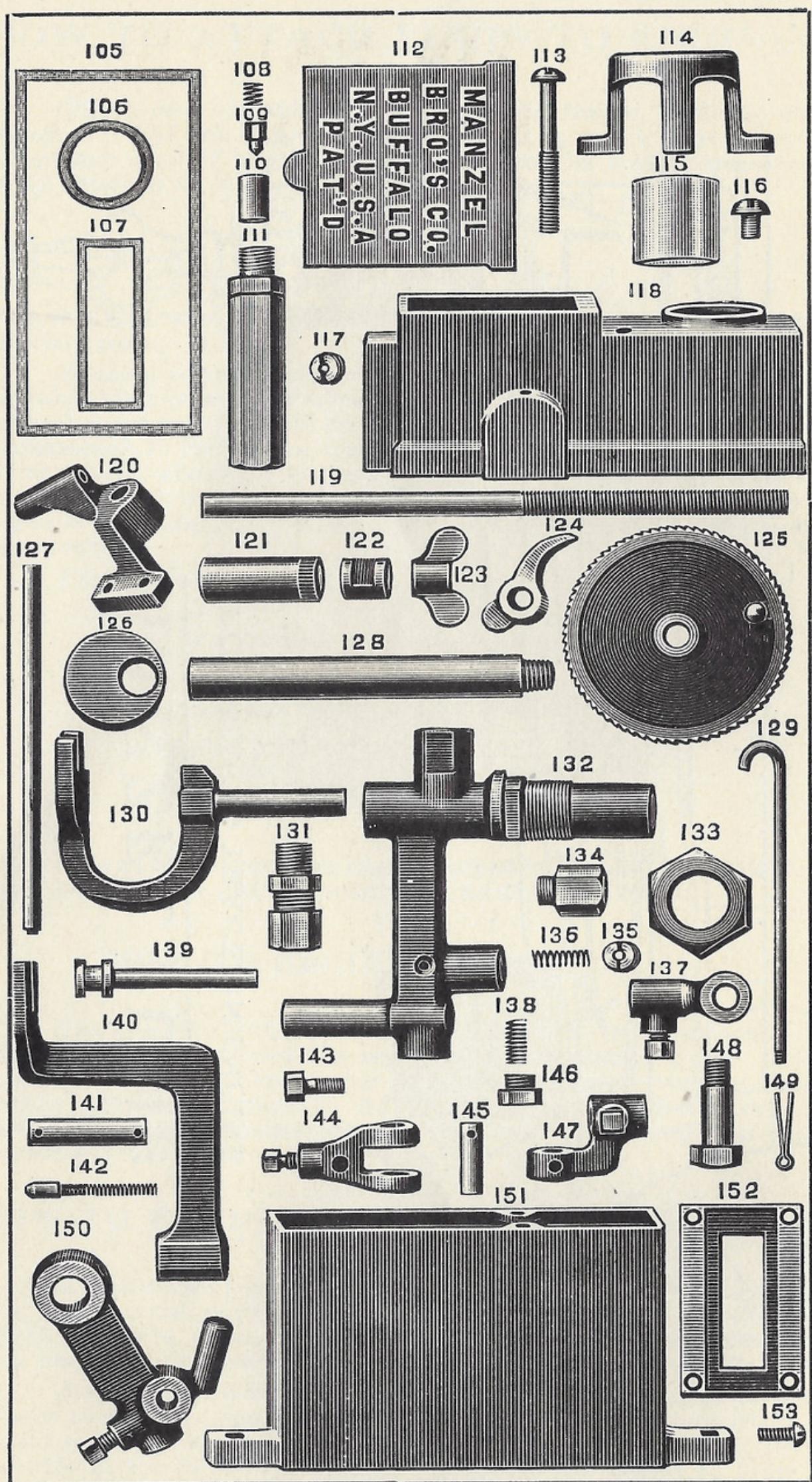
HOW TO CONNECT THE HEATING CHAMBER.

Run a small pipe from the exhaust steam line to either side of the small core running through the pump reservoir. (Both sides are threaded for $\frac{1}{4}$ -in. pipe.) From the opposite side have the pipe run to the stack or toward the ground.

A small globe valve should be put in the pipe, close to where the connection is made with the exhaust to permit of turning off the steam when it is not needed. Do not plug up one side of the heating chamber but allow the steam to blow through.



MANZEL PUMP
ATTACHED TO TRACTION ENGINE



REPAIR PARTS

MANZEL TRACTION ENGINE

OIL PUMP

M O D E L "D"

105	Cover Washer.....	\$.15	131	Union and Nut (for pipe),.....	\$.25
106	Sight Glass Washer	.05	132	Cylinder.....	2.25
107	Gauge Glass..... Washer.....	.10	133	Cylinder Nut.....	.10
108	Check Valve Spring	.03	134	Outlet Plug.....	.25
109	Check Valve— Valve.....	.10	135	Lower Valve Plug.	.10
110	Check Valve Sleeve	.10	136	Lower Valve Spring	.03
111	Check Valve.....	.50	137	Rod Connection....	.20
112	Cover Lid.....	.30	138	Suction Valve Spring.....	.03
113	Cover Bolt.....	.10	139	Lower Plunger (Drill Rod).....	.45
114	Sight Glass Cover..	.25	140	Regulating Arm...	.35
115	Sight Glass.....	.15	141	Pawl Pin,.....	.15
116	Sight Glass Cover Bolt.....	.05	142	Pawl Plunger and Spring.....	.10
117	Check Valve Plug..	.10	143	Bolt for Brake Casting..	.05
118	Cover—Single	2.50	144	Adjustable Con- nection25
118D	Cover—Double.	3.50	145	Adjustable Con- nection Pin.....	.10
119	Regulating Screw..	.35	146	Suction Valve Plug	.10
120	Brake Casting.....	.25	147	Offset Connection..	.25
121	Lock Nut.....	.30	148	Connection Bolt15
122	Regulating Screw Spool.....	.20	149	Cotter Pin.....	.03
123	Thumb Nut.....	.10	150	Rocker Arm50
124	Pawl (Tool Steel) ..	.40	151	Reservoir—Single..	2.50
125	Ratchet Wheel.75	151D	Reservoir Double..	3.50
126	Eccentric.....	.30	152	Gauge Glass Plate..	.25
127	Rocker Arm Rod...	.20	153	Gauge Glass Plate Screw.....	.05
128	Crank Shaft.....	.35			
129	Oil Tube.....	.20			
130	Eccentric Strap and Plunger.....	.60			

IMPORTANT—When ordering parts be sure to give size and style of Pumps for which they are wanted.

NOTICE—Prices include postage, except prices of cylinders, reservoirs and covers, which are F. O. B. Buffalo, as they must be sent by express.

TERMS—Cash with Order.

Remittances may be made in postage stamps.

MANZEL BROTHERS CO.

315-319 Babcock St., - - - BUFFALO, N. Y.

POINTS OF SUPERIORITY

Positive

Feeds as regularly as a watch ticks and requires no attention.

Will work in cold weather

Guaranteed to work in any temperature, using any kind of oil.

Large Sight Feed

Can be seen from all sides of engine.

Great Range of Feed

From nothing to fifteen or twenty drops with each stroke.

Easy Adjustment

Feed is regulated while engine is running.

Gauge Glass

Shows amount of oil in reservoir all the time.

Hand Attachment

Can be used as hand pump.

Heating Chamber

For warming the oil in extremely cold weather.

Hardened Drop-forged Tool Steel Pawls

Will last for years.

No Stuffing Boxes—No Packing

No possibility of leaking.

Dust Proof

Has hinged cover and catch for holding cover.

Simple

Cannot be put together wrong.

Durable

Will last as long as your engine.

Economical

Will save from thirty to sixty per cent. of oil.

No Extra Charges

Everything included for one price.